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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,848	12/11/2001	James Richard Graham	W00536/70005 PCL	1841

23628 7590 07/14/2003

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EXAMINER

VANOY, TIMOTHY C

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/14/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,948

Applicant(s)

GRAHAM et al.

Examiner

VANDY

Group Art Unit

1754

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on MAILED JUNE 4 2003

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-65 is/are pending in the application.

Of the above claim(s) 1-37 and 62-65 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 38-61 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claim(s) 1-65 are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____

☐ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 4, 7

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

DETAILED ACTION

Election/Restrictions

The Applicants' election with traverse of claims 38-61 in the Response to Election/Restriction Requirement (paper no. 9) is acknowledged. The traversal is on the ground(s) that a search and examination of all of the claims would place no undue burden on the examiner. This is not found persuasive because the search for the extra groups of claims would place the undue burdens of extending the field of search for the extra inventions; constructing the extra objections and/or objections for the claims of the extra inventions; considering amendments and arguments directed to the prosecution of the claims of the extra inventions, etc.

The requirement is still deemed proper and is therefore made FINAL.

Priority

Applicants' claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having "ordinary skill in the art" has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 38-41 and 46-50 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 7-313,867 A (JP-867).

JP-867 describes a process for removing hydrogen sulfide from a gas by passing the hydrogen sulfide-contaminated gas through an activated carbon containing a metal oxide, which sorbs the hydrogen sulfide out of the gas, in the manner set forth in applicants' claims 38-41, 46 and 48-50.

Also, note that paragraph no. 0006 in the text of JP-867 seems to report that the amount of metal oxides present in the activated carbon ranges from 1 to 10%, in a manner rendering obvious/anticipating the weight percent limitations of applicants' claims 46 and 47.

The difference between the applicants' claims and JP-867 is that applicants' claims 38-41 describe the hydrogen sulfide breakthrough capacity of the matrix, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is *prima facie* obvious that the same activated carbon material containing a metal oxide will inherently exhibit the same hydrogen sulfide breakthrough capacity reported in the applicants' claims.

Claims 38-41, 44-50, 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-313,867 A.

JP-867 describes a process for removing hydrogen sulfide from a gas by passing the hydrogen sulfide-contaminated gas through an activated carbon containing a metal

oxide, which sorbs the hydrogen sulfide out of the gas, in the manner set forth in applicants' claims 38-41, 46 and 48-50.

Also, note that paragraph no. 0006 in the text of JP-867 seems to report that the amount of metal oxides present in the activated carbon ranges from 1 to 10%, in a manner rendering obvious/anticipating the weight percent limitations of applicants' claims 46 and 47.

The difference between the applicants' claims and JP-867 is that applicants' claims 38-41 describe the hydrogen sulfide breakthrough capacity of the matrix, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is *prima facie* obvious that the same activated carbon material containing a metal oxide will inherently exhibit the same hydrogen sulfide breakthrough capacity reported in the applicants' claims.

The difference between the applicants' claims and JP 7-313,867 A is that applicants' claims 44, 45, 53 and 54 set forth that the moisture content of the gas being treated is less than 95% relative humidity (claims 44 and 53), or between 60% and 95% relative humidity (claims 45 and 54), *however* it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is reasonably expected that the process of JP-867 can successfully remove hydrogen sulfide out of a gas with any humidity content, consistent with the discussion of the *In re Merck & Co.* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) court decision set forth in section 2143.02 in the MPEP (Feb. 2003).

Claims 38-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-313,867 A as applied to claims 38-41, 44-50, 53 and 54 above, and further in view of JP 9-192,485 A.

The difference between the applicants' claims and JP 7-313,867 A is that applicants' claims 42, 43, 51 and 52 set forth that the metal oxide may be magnesium oxide.

The English abstract of JP 9-192,485 A describes an activated carbon composition that also contains a metal oxide (such as magnesium oxide), and reports the advantage of such a composition as being able to decompose odorous substances even when their concentration in the air or gas is extremely low.

It would have been obvious to one of ordinary skill in the art at the time the invention was made *to modify* the process and composition described in JP-867 *by either using or substituting* the magnesium oxide set forth in the English abstract of JP-485 *as the metal oxide* used in the process and composition of JP-867, in the manner set forth in applicants' claims 42, 43, 51 and 52, *because* the English abstract of JP-485 fairly suggests that the resulting composition has the advantage of decomposing odorous substances even when their concentration is extremely low, and the courts have already determined that it is *prima facie* obvious to choose a particular specie out of a list of species disclosed in the prior art reference: please see the discussion of the *In re Petering* 301, F.2d 676, 681, 133 USPQ 275, 280 (CCPA 1962) court decision set forth in section 2144.08(II)(A)(4)(a) in the MPEP (8th ed.) where it was established that

the selection of a specie out of a genus of 20 species disclosed in a prior art reference was anticipated by that prior art reference.

Claims 55, 56 and 58-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-313,867 A and JP 9-192,485 A.

JP-867 describes a process for removing hydrogen sulfide from a gas by passing the hydrogen sulfide-contaminated gas through an activated carbon containing a metal oxide, which sorbs the hydrogen sulfide out of the gas, in the manner set forth in applicants' claim 55.

Also, note that paragraph no. 0006 in the text of JP-867 seems to report that the amount of metal oxides present in the activated carbon ranges from 1 to 10%, in a manner rendering obvious/anticipating the weight percent limitations of applicants' claims 55 and 56.

The English abstract of JP 9-192,485 A describes an activated carbon composition that also contains a metal oxide (such as magnesium oxide), and reports the advantage of such a composition as being able to decompose odorous substances even when their concentration in the air or gas is extremely low.

It would have been obvious to one of ordinary skill in the art at the time the invention was made *to modify* the process and composition described in JP-867 *by either using or substituting* the magnesium oxide set forth in the English abstract of JP-485 *as the metal oxide* used in the process and composition of JP-867, in the manner set forth in applicants' claims 58 and 59, *because* the English abstract of JP-485 fairly

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suggests that the resulting composition has the advantage of decomposing odorous substances even when their concentration is extremely low, and the courts have already determined that it is *prima facie* obvious to choose a particular specie out of a list of species disclosed in the prior art reference: please see the discussion of the *In re Petering* 301, F.2d 676, 681, 133 USPQ 275, 280 (CCPA 1962) court decision set forth in section 2144.08(II)(A)(4)(a) in the MPEP (8th ed.) where it was established that the selection of a specie out of a genus of 20 species disclosed in a prior art reference was anticipated by that prior art reference.

The difference between the applicants' claims and JP 7-313,867 A is that applicants' claims 60 and 61 set forth that the moisture content of the gas being treated is less than 95% relative humidity (claim 60), or between 60% and 95% relative humidity (claim 61), *however* it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made *because* it is reasonably expected that the process of JP-867 can successfully remove hydrogen sulfide out of a gas with any humidity content, consistent with the discussion of the *In re Merck & Co.* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) court decision set forth in section 2143.02 in the MPEP (Feb. 2003).

Claims 55-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-313,867 A in view of JP 9-192,485 A as applied to claims 55, 56 and 58-61 above, and further in view of EP 0 643 014 A1.

The difference between the applicants' claims and JP 7-313,867 A is that applicants' claim 57 sets forth the process sorbs volatile organic compounds out of the gas.

The English abstract of EP 0 643 014 A1 describes a similar process for removing foul odor gases (to include methylmercaptan and trimethylamine) out of gases by contacting the gases with an activated carbon composition containing metal oxides.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further describe the utility of the composition described in JP 7-313,867 A in view of JP 9-192,485 A as being able to sorb and remove volatile organic compounds out of gases, in the manner set forth in applicants' claim 57, because the English abstract of EP 0 643 014 A1 is evidence that such compositions can be used to remove volatile organic compounds out of a gas.

The following references, which are indicative of the state of the art, are made of record:

U. S. Pat. 5,260,047 disclosing a process for using activated carbon to sorb and remove harmful substances out of gases, and

U. S. Pat. 4,978,650 disclosing a process for desensitizing activated carbon sorbents to the effects of humidity.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 703-308-2540. The examiner can normally be reached on 8 hr. days.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Timothy Vanoy/tv
July 7, 2003


Timothy Vanoy
Patent Examiner
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